## CLAIMS

What is claimed is

1 A method for increasing performance a multicast network in which a server multicast packets to a master client and at least one passive client, the method comprising the steps of:

(a) determining, by the clients during the multicast transfer, which is a slowest client based on which client drops a highest number of packets; and

(b) making the slowest client the master client, thereby adaptively determining which client becomes the master client to minimize network traffic.

2 The method of claim 1 wherein step (a) further includes the step of:

(i) counting, by the passive client, a number of dropped packets during a multicast transfer;

(ii) computing a drop ratio when the count of the number of dropped packets reaches a predetermined count threshold; and

(iii) if the drop ratio reaches a configurable threshold, sending a Force Master command to the server requesting to become a new master client.

3 The method of claim 2 wherein step (b) further includes the step of:

(i) in response to the server receiving the Force Master command, sending a Drop Master command from the server to the master client.

4 The method of claim 3 wherein step (b) further includes the step of:

(ii) sending from the master client to the server a Drop Master acknowledgement and causing the master client to enter passive client mode.

5 The method of claim 4 wherein step (b) further includes the step of:

(iii) restarting the drop packet counter in the passive client after the Drop Master command has been sent from the server.

6 The method of claim 5 wherein step (b) further includes the step of:

(iv) sending from the server a Force Master acknowledge to the passive client that issued the Force Master command.

7 A method for increasing performance a multicast network in which a server multicast packets to a master client and at least one passive client, comprising the steps of:

(a) counting, by the passive client, a number of packets dropped during a multicast transfer;

(b) computing a drop ratio when the count of the number of packets dropped reaches a predetermined count threshold; and

(c) if the drop ratio reaches a configurable threshold, sending a Force Master command to the server requesting to become a new master client, thereby adaptively determining which client becomes the master client in real-time.

8 The method of claim 7 further including the step of:

(d) in response to the server receiving the Force Master command, sending a Drop Master command from the server to the master client.

9 The method of claim 8 further including the step of:

(e) sending from the master client to the server a Drop Master acknowledgement and causing the master client to enter passive client mode.

10 The method of claim 9 further including the step of:

(f) restarting the drop ratio counter in the passive client after the Drop Master command has been sent from the server.

11 The method of claim 10 further including the step of:

(g) sending from the server a Force Master acknowledge to the

passive client that issued the Force Master command.

12 The method of claim 11 further including the step of:

(h) after the passive client receives the Force Master acknowledge, receiving the packets from the server as the new master client.

13 A multicast network system, comprising

a server for multicasting packets over the network;

a current master client that controls the multicast transfer of the packets; and

at least one passive client executing an algorithm for:

(a) counting a number of packets dropped during a multicast transfer;

(b) computing a drop ratio when the count of the number of packets dropped reaches a predetermined count threshold; and

(c) if the drop ratio reaches a configurable threshold, sending a Force Master command to the server requesting to become a new master client, thereby adaptively determining which client becomes the master client in real-time.

14 The system of claim 13 wherein in response to the server receiving the Force Master command, sending a Drop Master command from the server to the master client.

15 The system of claim 14 wherein from the master client sends a Drop Master acknowledgement to the server and enters passive client mode.

16 The system of claim 15 wherein the passive client restarts the drop ratio counter after the Drop Master command has been sent from the server.

17 The system of claim 16 wherein the server sends a Force Master acknowledge to the passive client that issued the Force Master command.

18 The system of claim 17 wherein after the passive client receives the Force Master acknowledge, the passive client receives the packets from the server as the new master client.

19 A computer-readable medium containing program instructions for increasing performance a multicast network in which a server multicast packets to a master client and at least one passive client, the program instructions for:

(a) determining, by the clients during the multicast transfer, which is a slowest client based on which client drops a highest number of packets; and

(b) making the slowest client the master client, thereby adaptively determining which client becomes the master client to minimize network traffic.

20 The computer-readable medium of claim 19 wherein instruction (a) further includes the instruction of:

(i) counting, by the passive client, a number of packets dropped during a multicast transfer;

(ii) computing a drop ratio when the count of the number of packets dropped reaches a predetermined count threshold; and

(iii) if the drop ratio reaches a configurable threshold, sending a Force Master command to the server requesting to become a new master client.

21 The computer-readable medium of claim 20 wherein instruction (b) further includes the instruction of:

(i) in response to the server receiving the Force Master command, sending a Drop Master command from the server to the master client.

22 The computer-readable medium of claim 21 wherein instruction (b) further includes the instruction of:

(ii) sending from the master client to the server a Drop Master acknowledgement and causing the master client to enter passive client mode.

23 The computer-readable medium of claim 22 wherein instruction (b) further includes the instruction of:

(iii) restarting the drop ratio counter in the passive client after the Drop Master command has been sent from the server.

24 The computer-readable medium of claim 23 wherein instruction (b) further includes the instruction of:

(iv) sending from the server a Force Master acknowledge to the passive client that issued the Force Master command.